

USAWC STRATEGY RESEARCH PROJECT

**WILL THERE BE ENOUGH INFORMATION
TECHNOLOGY MANAGERS IN 2010?**

by

Mr. Alan Roecks
United States Department of State

Ambassador Michael E. Malinowski
Project Adviser

This SRP is submitted in partial fulfillment of the requirements of the Master of Strategic Studies Degree. The U.S. Army War College is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools, 3624 Market Street, Philadelphia, PA 19104, (215) 662-5606. The Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

U.S. Army War College
CARLISLE BARRACKS, PENNSYLVANIA 17013

Report Documentation Page			Form Approved OMB No. 0704-0188		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 15 MAR 2006		2. REPORT TYPE		3. DATES COVERED	
4. TITLE AND SUBTITLE Will There Be Enough Information Technology Managers in 2010?				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Alan Roecks				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army War College, Carlisle Barracks, Carlisle, PA, 17013-5050				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited.					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT See attached.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES 28	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

ABSTRACT

AUTHOR: Mr. Alan Roecks
TITLE: Will There Be Enough Information Technology Managers in 2010?
FORMAT: Strategy Research Project
DATE: 8 March 2006 WORD COUNT:5916 PAGES: 27
KEY TERMS: Human Resource Management, Culture Organizational
CLASSIFICATION: Unclassified

This research studied the availability of future information technology (IT) managers at the U.S. Department of State (DOS). Over half DOS's Foreign Service specialist workforce is composed of Generation X—a cohort known to change employers often. Using current personnel profiles, the author projected the number of specialists in 2010. The prediction revealed that if attrition exceeds 15 percent, there will be more management vacancies than qualified candidates. This potential problem is exacerbated by the low birthrate of Generation X: Between 2010 and 2025, there will be fifteen percent fewer Generation X employees available.

Because most IT managers will retire in the next five to ten years and it takes five years to groom an IT specialist for management, DOS must recruit leaders who can move into management within five years. A risk analysis identified that the most viable strategy is to immediately recruit a higher percentage of retired military officers with an IT management background. Moreover, DOS must initiate training to integrate more effectively Generation X employees and to identify potential IT managers in order to help them hone their people and leadership skills. Finally, the research should be expanded to include all DOS Generation X employees.

WILL THERE BE ENOUGH INFORMATION TECHNOLOGY MANAGERS IN 2010?

When I was five years-old my grandfather shared with me that the younger generation just didn't measure up. When I was twenty, and had all the answers, my frustrated father wondered what would become of my generation. Now I am in my 50s and question if today's youth will be able to meet the challenges ahead. Yes, this current group is much different from past generations. But in what ways?

From 1998 to 2005, I was the chief technology officer at two large U.S. embassies. First I served in Turkey, then in Brazil. In this position, I directed the work of information technology (IT) personnel for the U.S Department of State (DOS). The IT group, about half of whom were new hires, were technology whizzes: you told them your needs and they met them, often in a matter of minutes. One concern, nevertheless continually surfaced: The young employees invariably questioned authority—an irritating behavior that limited their integration into the workplace. Let me share some personal experiences. At any mission you do what the ambassador asks. If he or she requests you attend a social function, you go. If she asks for a new computer, printer or satellite phone, you provide it. Sam and Bettie, two IT specialists who had worked five years in industry before joining DOS, saw no need to call the head of the mission “Mrs. Ambassador,” and felt her first name would do. John, Ellen and Brien, recent computer networking graduates from the University of Maryland, did not want to go to the ambassador's social event where they “would just have to make conversation with others whom they did not know.” Susan, another new hire, felt it was more important for the junior officer in the Political section to have the new computer rather than the ambassador. I had to frequently redirect their actions.

There were other differences as well. All but one of those under 35 years-of-age were reluctant to work overtime, claiming they had better things to do with their time. They all demanded feedback—immediate feedback. And they were bold. Ron and Nancy, who were in the middle in their second overseas assignment, requested I write them letters of reference so they could get a job outside of DOS after they completed their overseas tour; They demanded additional computer training, contending they could not do their jobs without it.

Reflecting back, I was perplexed by the behavior of my young IT staff. I wasn't prepared to deal with this newest group of workers, commonly called Generation X. I did not know how to best deal with their needs and temperament. Because DOS elected to put me into a year of senior training, and part of this training involved conducting research, I began to study how others were dealing with Generation X. Are they truly different than past generations? Which

strategies best motivate them? This paper applies what I learned to a strategic staffing problem at the State Department.

Strategic Importance

Today's world is very dependent on technology. The strategic plan for the U.S. Department of State lists several strategic objectives that guide the strategic deployment of information technology (IT) assets within its missions.¹ The plan incorporates the policy positions of President George W. Bush in his *National Security Strategy* and outlines how the Department of State and the United States Agency for International Development will carry out foreign policy and development assistance.² The first strategic objective, "To create a more secure, democratic, and prosperous world for the benefit of the American people and the international community,"³ provides conceptual underpinnings for DOS's IT Bureau's⁴ strategic plan.⁵

An organization must have capable IT professionals to keep its IT assets operational. This is definitely true for DOS whose professionals must maintain computer and communications networks throughout the world. In order to eliminate ever-increasing staffing gaps,⁶ State replenished its Foreign Service IT workforce just before the turn of the Century. The successful recruitment was guided by DOS's IT strategic plan. The plan's strategic goal was "[s]ustaining a trained, productive workforce,"⁷ and, by 2004, over half the IT Bureau's Foreign Service population were new hires. Approximately sixty per cent of the new hires were born between 1965 and 1979 and belonged to the generational cohort, Generation X.⁸

As early as 2010, the IT Bureau will face significant turnover with the retirement of its mid- and senior-level managers,⁹ most of whom are between fifty and sixty years-old. Its 2006 to 2010 strategic plan speaks to improving work-practices and leading change,¹⁰ but does not specifically address this shortage.¹¹ Ruch notes that the shortage of Generation X employees poses strategic problems for the U.S. workforce.

The number of employees age 45 to 64 (baby boomers) continues to be a strong base of the U.S workforce; the number of Gen Xers (employees age 25 to 34) is considerably smaller. By 2010, the population of employees 25 to 44 is expected to decrease by 15 percent. That has created an unprecedented shortage of younger (Gen X) employees...¹²

With so many new hires, the Bureau expects that it will have sufficient IT professionals to move into management ranks. Historically, its senior leaders are on sound footing: most joining DOS have remained for their entire career. This research challenges this assumption and puts forth strategic alternatives for dealing with what will likely be a shortage of capable Foreign

Service IT managers.¹³ It examines strategies to identify IT managers for DOS in the year 2010, almost all who will belong to Generation X.¹⁴ The population of interest is Generation X Foreign Service specialists who will move into IT management.¹⁵

Scope

Assumption

The Foreign Service population of Generation X IT specialists is similar to the U.S.-based Generation X population on which the generational research cited in this paper is based.¹⁶

Key Terms

Sociologists Rick and Kathy Hicks report that, during the 20th century, a unique generation independent of ethnic, racial and economic differences emerged about every 20 years:¹⁷ The term *cohort* refers those born in the same general time span who share key life experiences.¹⁸

There are four readily identifiable generations occupying the workplace today—the Traditionalists, Baby Boomers, Generation Xers and Millennials.¹⁹ Each is “clearly distinguishable by all these criteria—their demographics, their early life experiences, the headlines that defined their times, their heroes, music, and sociology, and their early days in the workplace.”²⁰ The *generational boundaries* used for this research are listed below.²¹

The *Traditionalists*, in between the turn of the last century and the end of World War II (1900-1945), combine two generations who tend to believe and behave similarly and who number about seventy-five million people.

The *Baby Boomers* (1946-1964) are the largest population ever born in this century and number about eighty million.

Generation Xers (1965-1980) are a smarter²² but very influential population at forty-six million.

The *Millennials* (1981 to 1999) represent the next great demographic boom at seventy-six million.²³

Limitations

DOS's personnel data base does not include sufficient information to track IT Foreign Service specialist attrition. DOS records when an IT employee departs and his/her year of birth, but does not track why the employee departed. DOS's data base, for example, does not show how many Generation X and Baby Boomers were hired during each recruiting cycle.

Rapid changes in technology impact the workplace. The IT Bureau is implementing far-reaching changes that will transform how DOS carries out its diplomatic mission.²⁴ The extent

to which these improvements will change DOS's future work environment is a topic beyond the scope of this research.

The reader is cautioned that generational indicators apply to some, but not all subjects in the cohort.²⁵ The chronological boundaries of each generation can extend as much as five years, with the actual classification being determined by each individual's experiences when young, not by his/her birth date.

The High Cost of Attrition

Retention of Gen Xers is a major problem in the U.S workforce. Martin and Tulgan report that one in three Gen Xers change jobs annually and their organizational tenure is three years.²⁶ Ruch reports a fifty percent turnover every four years.²⁷ Personnel in high technology and accounting careers job hop more often than other professions.²⁸ Conservatively, based on available literature, an IT organization can expect Gen X turnover of twenty percent.

Schwartz, writing in the October 2005 issue of *Computerworld* notes that IT organizations have to modify the workplace environment and offer their high technology workers perks in order to retain them.²⁹ In time, even with considerable workplace enhancements, the workers eventually leave. The corporate changes made to accommodate the IT worker represent only a temporary patch, not a permanent solution.³⁰ Generation X researcher Michael Muetzel postulates how Xers will fit into the workplace of the future:

Gen Xers will be in short supply, and Gen Xers may also be the managers in charge in these critical times. And this generation of managers will rotate jobs frequently. The anticipated shortage, when combined with the high cost of turnover, will force managers to modify their standard management techniques.³¹

Compared to other DOS Foreign Service personnel, the IT specialist is more likely to leave. First, the specialist has more job options outside DOS than his/her Foreign Service colleagues, most of whom are in the officer corps.³² A specialist with overseas experience, current IT training and a security clearance is a valuable commodity. He/she will likely have employment options with other U.S. Government agencies and industry. Second, some officers represent the third- and fourth-generations of families who served in DOS. For many specialists this genealogy isn't present. As a result, they do not embrace the same long-established ties that link their officer colleagues to the Department.

Losing a Foreign Service IT specialist is expensive. Start-up costs include training, obtaining a security clearance and, in some cases, foreign language training. The total cost can exceed \$200,000.³³ Generation X researcher Michael Muetzel posits additional "replacement" costs including severance, opportunity time lost, interviewing time, travel expenses, testing

costs and the learning curve for the replacement employee; he notes that the loss of corporate knowledge is especially devastating if replacements are not forthcoming.³⁴ As the smallest cabinet-level U.S. agency, DOS is especially vulnerable to significant attrition in any of its ranks, especially if the departures are unanticipated.

DOS requires a lead time of three- to five-years to replace an IT specialist. Initial recruiting can be difficult due to the relatively low pay for work and the hardships and danger associated with certain, often remote postings. Before working on DOS's information systems, an employee must pass a medical examination confirming he/she is fit for worldwide assignments. Diplomatic Security must verify that the employee is not a security risk—a process that usually takes four to ten months. The employee also must complete four to six months of specialized training. Another two years are required to master DOS's business systems. For a manager, an additional two years are needed before the employee fully understands DOS's political and cultural nuances, including comprehending the ins-and-outs of the Washington D.C.-based headquarters. Understandably, when a specialist—especially a manager—leaves the organization, the loss of corporate knowledge is tremendous. It is not surprising, given the factors cited above, that finding a capable replacement is challenging. Once a qualified applicant is found, several transition years are needed for the future employee to be functional. For its Foreign Service IT group, DOS needs to recruit and train its own. If those who are being groomed to be IT managers do not intend to remain, then the organization faces a potential crisis in its leadership ranks.

Effective management can mitigate attrition. The author has observed that IT has more management difficulties than other organizational groups.³⁵ Employees new to the workforce may see service in the sometimes turbulent IT group as inhibiting professional advancement and may campaign to work with other corporate entities.³⁶ To prevent mass migration, retaining the most capable IT managers is paramount.

Generation X

Characteristics of Generation X

What separates Generation X, the least populous generation in the U.S. workforce today,³⁷ from other generations? Let's first look at its unique artifacts. Listed among its cultural memorabilia are popular television shows like "The Brady Bunch," "The Simpson's," and "Dynasty" and Stephen Spielberg's not-to-be-forgotten outer-space classic "ET." Generation Xers fondly remember playing with Cabbage Patch Dolls, knocking around in platform shoes and coveting pet rocks. Generation X core values include "diversity, thinking globally, balance,

techno-literacy, fun, informality, pragmatism and self-reliance.”³⁸ Howe and Strauss report that Generation X characteristics may be present outside the U.S.³⁹

Zemke, Raines and Filipczak identify nine elements of a “Generation X Personality.” These include extolling self reliance, seeking a sense of family, wanting balance in their lives, embracing a non-traditional orientation toward time and space, liking informality, advocating a casual approach to authority, leaning toward skepticism, being attracted to the edge and sponsoring the use of high technology in their daily lives.⁴⁰ Xers, for instance, had to be self-reliant since they were the most attention-deprived, neglected group of kids in a long time.⁴¹ Theirs was the first generation where the mother was working—creating new, unfamiliar role definitions for overstressed parents. These were latch-key children, borne from parents whose marriages more often than not ended in divorce.”⁴² In order to cope, Xers sought a sense of family by engaging in multiple friendships among their peers. The situation comedy “Friends” depicts the Xers’ urgent need for a cohort group. The word “adventuresome” characterizes Generation X’s hobbies and spare-time activities. Losyk reports that Xers often seek recognition in the work environment as well.⁴³ The popular TV show, “X-games,” which was named after Generation X, appeals to their “attracted to the edge” nature. Xers, for instance, love mountain-biking, parachute jumping and rock climbing.⁴⁴ Wong reports a penchant for extreme sports among Generation X Army officers.⁴⁵ Xers are the most technologically savvy generation and are valued in the workplace for their technical knowledge.⁴⁶ They grew up with in-house electronic devices and had to learn to operate VCRs, computers and microwaves on their own.

Generation X as Managers

Because many Xers are just beginning to move into leadership positions, the research available is based on the management profile of young Xer managers. The research identifies a common theme: namely, that much needed people skills often are not present in Xer managers. They experience difficulties with bureaucracies due to their mistrust of organizations and the authority figures leading them. Whenever possible, Generation X managers will avoid personal contact, relying instead on more informal means like E-mail, telephone or videoconferencing.⁴⁷ Muetzel writes that Xer managers can be effective in a team setting, but their pessimism toward senior management must be muted.⁴⁸ Lancaster and Stillman, authors of *When Generations Collide*, report that Generation Xers at the cusp of the generation range—those born during the period 1960 to 1965—make the best managers.⁴⁹

Wong, in a longitudinal study of Army officers, reported that Xer captains seek more balance than their Boomer counterparts.⁵⁰ Predictably, Xers avoid working on weekends and do not volunteer for overtime. To them, the object is to meet the deadline for work, irrespective of the means employed. They want to do it “their way” and not be told “how to get the job done” by their supervisors.⁵¹ They want the workplace to be casual and contend that being able to work in jeans and T-shirt makes them more productive.⁵²

Xers are unimpressed by authority and often “treat the company president just as they would the front-desk receptionist.”⁵³ This same predisposition is present in the U.S. military as Wong notes that Xer Army captains are not impressed by rank.⁵⁴ Due to the many negative experiences with authority figures in their early years, Xers are skeptical, and are reluctant to place their trust in others. They hesitate to follow orders unless they understand what is in it for them and believe that leaders must earn their respect. They often ask “why?” when they are told to do something, and they want to know “what’s in it for them?”⁵⁵ In spite of their lack of respect for others’ authority, Losyk reports that Xers “want to be respected immediately and unconditionally.”⁵⁶

Some Xers want to move into top positions without delay. Climbing the corporate ladder patiently and waiting for a management position to free up is not part of their career plan. Others simply don’t want to be managers.⁵⁷ They cannot be enticed into management, even with financial and work setting inducements. This computer-literate generation wants to do what they enjoy most, play with hardware.

Xers hesitate to commit. They “feel that there is no such thing as job security.”⁵⁸ They want to keep their options open and see jobs as temporary. They lived through the bitter disappointment of their one-career parents being unexpectedly laid off by their “nurturing” company, and experienced the side effects of their parent getting just a gold watch and minimum severance pay to compensate for a life’s dedication to the corporate way. As noted earlier, Xers “will often leave a job at the hint of a better position.”⁵⁹ Yamashiro reports similar findings, noting that Xers view themselves more as “lifelong job hoppers than company loyalists.”⁶⁰

Rosen identifies a sub group of high achievers, comprising fifteen percent of all Xers, whom he labels the “elite Xers.” This select group represents high profile leaders in U.S. society and includes unconventional technology wizards, wealthy money managers, high-profile journalists and creative, well known personalities in radio and television.⁶¹ Rosen identifies a character flaw sometimes present in the elite Xers: namely, that they must assume chameleon-like characteristics to be successful. Rosen notes that elite Xers “regard the customer as

expendable, someone to be abandoned when circumstances change or the connection proves unprofitable, they studiously avoid establishing relationships that would tie them down.”⁶² To be effective, the elite Xers must rely on situational ethics. Observing this same trend, Yamashiro notes Xers believe that “they must compromise integrity to achieve success.”⁶³ They believe the world cannot be trusted since it “has let them down, treats them less well than they deserve, and threatens them with unmerited punishment.”⁶⁴ Elite Xers endorse the philosophy of “taking what I can whenever I can.”

Taken together, the management profile for Generation X is not encouraging. Perhaps the negative characteristics that have emerged so far will become muted as the generation matures.

Alternate Strategies

This section will analyze three options DOS may wish to implement to ensure it has sufficient IT Foreign Service management to support mission operations in 2010. These strategies include evaluating the current group of Generation X employees, most of whom were hired during the last six years; drawing on retired U.S. government IT managers, including those from DOS and the military; and employing remote IT management conducted from Headquarters in the Washington D.C. area. Each alternative will be analyzed via the “ends-ways-means” paradigm commonly employed for strategic analysis at the U.S. Army War College.⁶⁵ This approach will determine the feasibility of each alternative. For each option, we will examine the following: financial cost and attributes such as management and people skills, technical understanding, longevity and personal characteristics. Taken together, these analyses will allow us to judge the acceptability of the alternatives. The risk analysis will also evaluate second- and third-order effects. The end goal is to sustain productive IT managers. Based on findings from the analyses, the following section recommends potential courses of action.

Generation X IT Employees

Will there be enough Generation X specialists⁶⁶ to replace departing Boomer IT managers⁶⁷ in the year 2010? Projecting the number of specialists who will be available in the future requires making assumptions about the Generation X cohort. The literature review noted that Gen X attrition for IT organizations should be at least 20 percent annually. Considering those Gen Xer’ specialists who have been with DOS for five years, we assume forty percent⁶⁸ will be viable management candidates. Based on the current IT employee population,⁶⁹ projected hires and losses are depicted below. The results indicate there will not be enough

qualified X-Generation IT specialists to replace departing Boomer managers if the attrition for either specialists or managers is fifteen percent or higher. If the attrition is ten percent or below, there should be sufficient specialists to replace departing managers.

What do these findings bode for the future? Let's first consider Boomer managers. Can we expect their attrition to remain below fifteen percent? Perhaps not. As Boomers mature, more will want to retire, so we can expect their retirements and resignations to increase. What about attrition for Gen Xers? Given projected trends, we expect Xer' attrition⁷⁰ will exceed fifteen percent annually. We then must conclude that there will likely not be enough specialists to move into management from the year 2010 and beyond.

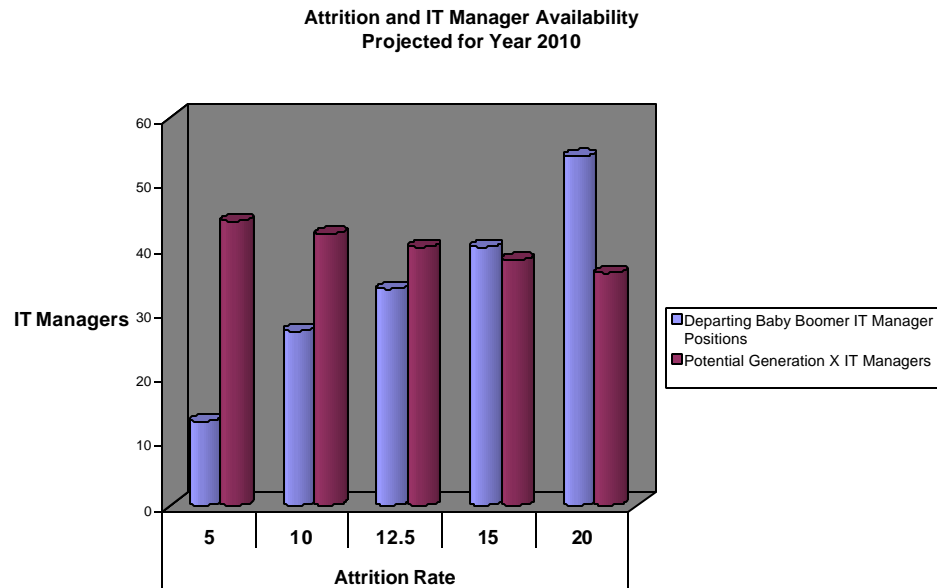


FIGURE 1

Considering generational demographics, the future becomes bleaker. Given the five-year lag time to train a specialist to be a manager, DOS will keep falling further behind. The problem is exacerbated by the size of the Generation X cohort. It is 15 percent smaller than any other since the end of World War II.⁷¹ This means there will be too few Generation Xers to replace retiring Boomer managers.

Even if there were sufficient numbers of Generation X employees available, there remain additional generational concerns that constrain their movement into management. From the

literature already presented, in addition to their penchant for job hopping, Xer's often fail to adapt to corporate culture and are reluctant to move into leadership positions. Moreover, the Generation X cohort demonstrates undesirable personal characteristics that limit their upward mobility. Compared to other generations, Generation X has the highest levels of drug and alcohol abuse, homicide, suicide, teen-age pregnancy and a constant need to receive immediate feedback.⁷² Their less-than-stellar generational pedigree severely limits their advancement into management, one of our risk factors. Will the employee have a stable enough personality to be effective in a high pressure management role? Will there be problems with the employee getting and maintaining a security clearance? Will he/she be able to function successfully on a team? If not, will the Gen Xer's personality cause other productive team members to depart? In terms of second- and third-order effects, the generational attributes suggest that Generation Xers require considerable maintenance—an especially troubling trait that will demand additional time from their likely busy supervisor.

DOS's Generation X employees are a financial bargain. They were brought in at lower ranks and many of those remaining were groomed for management. Compared to industry salaries, their cost is low. Technically, this group is highly adept with technology. They can solve most any computer and communications problem and love to take training in order to maintain their technical edge.

Though the economic and technical risks are acceptable for this option, the management and personal characteristics risks are very high. Because there is serious doubt as to whether there will be enough Generation Xers available and that those available may not be management material, there is a clear lack of resources or means. Due to this shortage, there is a definite lack of balance among the ends, ways and means. Clearly, DOS cannot depend on its current cadre of specialists to fill future IT management positions. We must pursue alternate ways to identify IT managers for DOS.

Retired U.S. Government IT Managers⁷³

A second, perhaps more promising alternative is to recruit retired IT managers, preferably from the U.S. government.⁷⁴ The obvious choice is to look at retirees from DOS. They require minimal effort to re-hire and can move directly into the IT job within weeks. They understand DOS's unique legacy IT systems, would be able to renew their security clearances quickly and are comfortable with DOS's complex culture. DOS was their primary career and, given their previous experience, they understand how to get things done in a mission setting. Given the

fact that they maintained a top secret clearance during their tenure, their integrity is unquestioned and undesirable personal characteristics should not be present.

Examining this option in more detail, however, reveals some shortcomings. The age of DOS retirees is a major concern. The average retiree age is over 60 years-old, and some may no longer be technically current. This group would require refresher training. Moreover, there are generational conflicts between Baby Boomer managers and the Generation X workforce still would be present.⁷⁵ These conflicts will re-surface with the re-introduction of the previous managers as a second-order effect.

Bringing back the old guard would be expensive. Most have at least 30 years experience and commanded a six-figure dollar salary when they retired—salaries that placed them at the high end of DOS employees. If they demand their previous salary, this option might be too costly. There is a second-order effect that could dramatically lessen the financial impact, however. These retirees, especially if money were scarce, could elect to work for much less money. Some might miss the work or the excitement of overseas life and want to return, even if DOS didn't meet their full financial expectations.

This option has technical, financial and retention risks. How much of an impediment is the retiree's lack of technical sophistication? And to what extent will it impact the IT manager's effectiveness in working with younger, more technically advanced personnel? Financially, this option could be expensive. Can the DOS afford the retiree? In terms of balance, the demand for IT managers will exceed the number of available DOS retirees, limiting how widely this approach can be implemented. Finally, if a manager only has few productive years before mandatory retirement at age 65, is it worth bringing them back, especially when it appears that Congressional action raising the retirement age may be years away?

IT managers who have just left the military represent another possibility.⁷⁶ One advantage is that they understand hierarchical organizations and chains of command. Being younger, former military will not be constrained by DOS's mandatory retirement of 65 years-of-age. The military emphasizes training and its officers should have already developed leadership and management skills—a common weakness among IT specialists who wish to move into management. The military has an especially strong training program for its IT workforce, and most military IT managers are technically current. Their technical sophistication makes them more acceptable to DOS's Generation X workforce. It will take time, nevertheless, for them to become familiar with DOS's legacy computing systems.

By nature of their military association, they will be loyal the U.S. government and, given the current longevity of DOS's retired military IT hires, we can expect them to remain with DOS

the remainder of their career. The author estimates that ten percent of DOS's IT workforce has ten or more years of military experience. They tend to be a good fit in the IT organization and appear to enjoy overseas life.

The retired military member should be willing to work for less than DOS's retirees since they are younger and generally command a smaller salary.⁷⁷ In addition, a former military member can either buy into DOS's retirement or elect to get a separate retirement—a second-order effect benefiting the military employee.

An important longitudinal risk involves the need to train the military retiree. There is a time lag of several years before the military retiree can be a productive manager. Even with previous management experience, learning how to navigate DOS's culture will take at least two years. They must also become familiar with DOS's legacy systems. This learning curve, however, could be lessened due to the military group's technical familiarity.

Recruiting the retired military appears to be an acceptable alternative, one that is more feasible than hiring DOS retirees. The cost appears to be less, the cultural fit adequate and the technical knowledge greater. The fact that the military retires its IT personnel at an earlier age than DOS makes the military employee an attractive option. In terms of balance, the supply of retired military IT managers should exceed DOS's demand—a key demographic further supporting this option.

Looking ahead, several potential second- and third-order effects emerge. If DOS pursues this hiring option and the number of retired military increases dramatically, DOS's culture may balk at the rapid infusion of retired military personnel. Also, because the Department of Defense (DOD) will be facing the same generational gap, it will likely recruit its retirees into its civilian cadre. DOD then would be actively recruiting against DOS. Finally, DOS may have to raise its entry salary to compete successfully with industry for IT personnel with management experience.⁷⁸

Remote IT Management⁷⁹

A third, much different possibility, involves leveraging technology and providing supervision remotely, likely from Washington, D.C. This alternative, which centralizes resources, assumes that managerial work is similar for each overseas mission and that the organization can use the same IT manager in multiple settings.⁸⁰

This approach is economically feasible. It will be much cheaper, since it requires less manpower. Based on staffing needs for help desks, it would appear that one remote IT manager could replace several overseas managers.⁸¹ The savings would be considerable since

the cost of an overseas IT manager is at least twice as great as the cost of a domestically-based IT manager.⁸² The IT manager has to have strong technical management know-how and excellent management and people expertise.⁸³ The author has found that contractors are often more motivated than government employees. Technical issues could be handled more efficiently since there would likely be more technical assets in the U.S.; systems support would be superior since most DOS's legacy systems were developed in the U.S. This approach reduces the number of personnel overseas, a current priority of DOS. Unfamiliarity with overseas mission operations can be overcome with orientation travel. On a more cautious note, when looking at second-order effects, the shortage of qualified IT managers could drive up the contract labor price, making this instead a very expensive alternative.

This solution emboldens political, cultural and management risks, most of the second- and third-order. Any alternative that results in a reduction in personnel has political implications, particularly in an organization as small as DOS. Because the solution will likely result in a reduction of personnel at the mission level, the affected regional bureau at DOS Headquarters may oppose it. The IT Bureau will also lose positions and may oppose the proposal. Culturally, the in-country ambassador will want to have the senior IT staff under his or her control. He/she will want his/her people, rather than Washington, making technical decisions affecting the overseas mission. How, for instance, can a U.S.-based contractor who is likely not familiar with overseas logistics make relevant decisions impacting an overseas mission? In addition, replacing direct-hire Foreign Service employees with contract personnel could result in legal action.

Although the political and cultural risks are significant, the management risks are formidable. The IT bureau is just learning how to motivate and manage its Generation X employees. With remote management, the supervisor is in the U.S., not at the overseas mission where the workers reside. Moreover, the remote model requires that overseas IT specialists work independently. Given that most specialists are Xers, productivity may drop because, as noted earlier, Gen Xers require considerable one-on-one support and this support can not be provided adequately within the framework of a remote setting model. Applying the ends-ways-means paradigm, this option creates an unbalanced outcome. The means employed are insufficient due to political, cultural and management risks. In retrospect, the risks associated with this radical approach may outweigh its strong economic benefits.

Recommendations

DOS should recruit Generation X IT specialists who will remain and whose leadership characteristics will allow them to move into management within five years. A risk analysis revealed that DOS should consider recruiting more retired military officers. They have developed leadership skills and are accustomed to hierarchical organizations and chains of command. Hire them—it may mean raising entry level salaries--and they should remain. The most serious risk identified was that it would take at least two years for newly hired military personnel to learn DOS's culture.

Considering its current group of Generation X employees, the IT Bureau should identify potential managers and help them augment their people and leadership skills. Many Foreign Service managers, including those in IT, need to develop aspects of their personalities to become successful senior leaders. This recommendation brings about two courses of action. Some Generation X employees may not want to rise into management positions. Strategic planning needs to account for this predisposition. Second, the leaders that organizations want to retain are those with the most opportunities elsewhere.⁸⁴ The IT Bureau should look carefully at the Xer's work history, confirm that the employee is not a job hopper and verify that he/she has the potential to move into management. Once this has been done, the employee should be encouraged to take leadership and development courses at the Foreign Service Institute (FSI), DOS's leadership and training facility.

DOS should have FSI structure training to integrate more effectively Generation X IT employees. Teaching Baby Boomer managers appropriate ways to respond to Generation X could have important long term benefits. The head of the IT Bureau should brief ambassadors and other senior staff during their FSI-sponsored orientation. Second, new hires need to understand DOS's culture more quickly. Perhaps more time needs to be set aside for the IT employee at the Transition Center. Reducing the time needed to become acclimated to DOS frees up valuable employee time that can be dedicated to workplace issues.

Given the job-hopping predisposition of employees under 40 years of age, DOS must begin collecting data so it can track attrition. Although different in many ways from their older Generation X colleagues, the newest generation of workers, the Millennials, are also job hoppers.⁸⁵ Because employees under 40 years old—a group including Generation X and Millennials--tend to switch employers frequently, we can expect a higher level of employee attrition than with previous generations. Knowing how many employees hired in a given year have left and when they departed is simply good business. DOS could predict employee attrition and anticipate staffing gaps if they had better information. Some key questions DOS

should ask when an employee departs include: Were there specific actions that DOS could have taken to prevent the employee from departing? Did the employee transfer from DOS's Foreign Service to its civilian group? Did the employee elect to work for another federal government agency or for a corporation? If they left to work for a corporation, was it one that contracts with DOS?

The research scope should be expanded to include *all* Generation X employees at DOS. It would concentrate on ways to optimize the talents of this often misunderstood generation. In order to better understand its Generation X labor force, DOS requires additional demographic information. Future inquiries should seek answers to the following questions: In what ways do DOS's Foreign Service and civilian groups differ, and in what ways are they alike? Are employees able to learn as effectively with self-directed distance learning as they are in group settings? Are employees who are married to foreign-born spouses more or less likely to remain with DOS? What is the extent of military service among employees? What is the nature of differences between those who served as military officers and those who served as non-commissioned officers? Do naturalized Americans tend to remain a longer or shorter time than U.S.-born Americans?

By having answers to questions like these, DOS will be able to identify characteristics of the employees they want to keep. This information should be invaluable for future recruiting and conducting strategic and long range planning.

Endnotes

¹ A mission refers to the embassy, consulate and consular agencies that DOS maintains in a country for which they have diplomatic relations.

² U.S. Department of State and U.S. Agency for International Development, *Strategic Plan: Fiscal Years 2004 - 2009* (Washington, D.C.: Department of State/USAID Document Number 11084, August 2003), 1-54.

³ U.S. Department of State and U.S. Agency for International Development, *Strategic Plan: Fiscal Years 2004 - 2009* (Washington, D.C.: Department of State/USAID Document Number 11084, August 2003), 1.

⁴The IT Bureau at DOS is called Information Resource Management (IRM). For this paper, we will use the more common term "IT," rather than "IRM."

⁵ U.S. Department of State, *IT Strategic Plan: Fiscal Years 2006 - 2010 Goals Paper* (Washington, D.C.: Department of State Information Resource Management, April 2004), 1-24. DOS's IT strategic plan was influenced by the President's Management Agenda and government-wide information technology (IT) initiatives, including e-Government. It was driven

by input from end users, other DOS regional bureaus and overseas missions. Merging these inputs into the current strategic plan, DOS seeks to promote “efficiency in the delivery of administrative services” plus better coordination among U.S. Government agencies operating overseas. Over the last five years, IT provided essential support for administrative and consular functions, but has not been able to offer similar support for core diplomatic activities.

The IT Bureau’s vision for 2010 embraces a strong, cooperative role in supporting diplomatic activities. This vision involves “empowering diplomacy with tools and information available anytime, anywhere.” Its five strategic goals include: The Right Information; Knowledge Leadership for Diplomacy; Anytime/Anywhere Computing; Diplomats on the Move; External Partnerships: Diplomacy through Collaboration; Risk Management: Mission Effectiveness and Security; and Work Practices and Workforce: Leading Change. The relationship of these strategic goals to national interests is shown below.

<u>The IT Bureau's Strategic Goals</u>	<u>National Interests</u>			
	<u>Security of the homeland</u>	<u>Economic well-being</u>	<u>Promotion of values</u>	<u>Favorable world order</u>
The right information for diplomacy	X	X		X
Anytime/Anywhere Computing	X			X
Diplomacy through collaboration	X	X	X	X
Workforce change	X		X	X

⁶ These gaps were due to retirement and the need for additional IT expertise. As a result of this requirement, additional IT positions were created to support mission operations.

⁷ U.S. Department of State, *IT Strategic Plan: Fiscal Years 2006 - 2010 Goals Paper* (Washington, D.C.: Department of State Information Resource Management, April 2004), 3.

⁸ The author estimates that 60% of new hires belonged to Generation X and 40% were Baby Boomers. The estimates are based on the author’s conversations with recruiters, senior managers in DOS and his first hand knowledge. DOS is not able to provide the exact number of employees recruited each year due to several factors. Not all new hires completed the required training (some quit) or passed their security clearance; some changed their mind about working for DOS.

⁹ The head of DOS’s IT Bureau, Chief Information Officer Bruce Morrison, made this statement in his keynote address at the IT European Conference held in Vienna, Austria in March 2004.

¹⁰ U.S. Department of State, *IT Strategic Plan: Fiscal Years 2006 - 2010 Goals Paper* (Washington, D.C.: Department of State Information Resource Management, April 2004), 1.

¹¹ IT recruiting was part of the 2000-2005 strategic plan.

¹² Will Ruch, "How to Keep Gen X Employees from Becoming X-Employees," *Training & Development* 54 (April 2000): 40-43 [database on-line]; available from ProQuest; accessed 11 October 2005.

¹³ Most tours for Foreign Service employees are at overseas missions. An employee's first and second tours are two years in length, with subsequent tours typically three years. This paper does not look at DOS's civilian IT corps. This group supports mission operations, primarily from locations in the greater Washington D.C. area.

¹⁴ DOS specialists move into management when they are in their 40s, with a few starting as early as the mid-30s. In 2010, members of Generation X cohort will be between 30 and 45 years-of-age.

¹⁵ For this research, any IT position that is graded at FS-02 (equivalent to the Lieutenant Colonel rank) or higher will be considered management. The author points out that several non-management specialists have a grade of FS-02, but also notes that there are a few FS-03 positions that are management.

¹⁶ DOS Foreign Service IT personnel are all American citizens and many were recruited from US-based job fairs. Potential differences include that, in comparison to the general population, many are married to foreign-born spouses and/or have family in another country. Because DOS does not retain this information, the author estimates that 40% of Foreign Service IT employees have lived overseas and 20% are foreign-born and naturalized.

¹⁷ Rick and Kathy Hicks, *Boomer, Xers, and Other Strangers: Understanding the Generational Differences That Divide Us* (Wheaton, Illinois: Tyndale House Publishers, 1999), 231.

¹⁸ Ron Zemke, Claire Raines and Bob Filipczak, *Generations at Work* (New York: American Management Association, 2000), 13.

¹⁹ The generation just entering the workplace has had several labels including Generation Y, Nexters and the Millennials.

²⁰ Ron Zemke, Claire Raines and Bob Filipczak, *Generations at Work* (New York: American Management Association, 2000), 17.

²¹ There is no agreement regarding the exact age boundaries for each generation. Generation X is a good example. Some demographers establish Generation X boundaries between 1960 and 1980. Most researchers agree that the period 1965 to 1977 includes Generation X. Bernard Rosen extends the boundaries for Generation X another five years, beginning in 1965 and ending in 1984. See Bernard Carl Rosen, *Masks and Mirrors* (Westport, Conn.: Praeger Publishers, 2001), 61. Lancaster and Stillman slot Generation X into the 1965 to 1980 time frame. They also establish a Cusper Group, which they say is very similar to Generation X, with boundaries from 1963 to 1964. See Lynne C. Lancaster and David Stillman, *When Generations Collide* (New York: Harper Collins, 2002), 13. Martin and Tulgan put Generation X into the 1963 to 1977 time frame. See Carolyn A. Martin and Bruce Tulgan, *Managing the Generation Mix* (Amherst, Mass.: HRD Press, 2002), 63-64.

²² By “smarter” the author assumes the researchers are referring to technical or computer savvy “smarts.”

²³ Lynne C. Lancaster and David Stillman, *When Generations Collide* (New York: Harper Collins, 2002), 8.

²⁴ U.S. Department of State, *IT Strategic Plan: Fiscal Years 2006 - 2010 Goals Paper* (Washington, D.C.: Department of State Information Resource Management, April 2004), 1-24.

²⁵ Rick and Kathy Hicks, *Boomer, Xers, and Other Strangers: Understanding the Generational Differences That Divide Us* (Wheaton, Illinois: Tyndale House Publishers, 1999), 288. The authors note that there are certain trends that cannot be taken into account when understanding generations. They point out, for example, that children raised in a strong religious environment are more likely to believe in absolute truths and those raised in wealthy homes are more likely to have an optimistic view of the future.

²⁶ Carolyn A. Martin and Bruce Tulgan, *Managing the Generation Mix* (Amherst, Mass.: HRD Press, 2002), 30.

²⁷ Will Ruch, “How to Keep Gen X Employees from Becoming X-Employees,” *Training & Development* 54 (April 2000): 40-43 [database on-line]; available from ProQuest; accessed 11 October 2005.

²⁸ Andrea T. Jennings, “Hiring Generation-X,” *Journal of Accountancy* 189 (February 2000): 55-60 [database on-line]; available from ProQuest; accessed 11 October 2005.

²⁹ Matthew Schwartz, “Web Guru Seeks Mentor,” *Computerworld* 35 (2 July 2001): 38-39 [database on-line]; available from ProQuest; accessed 11 October 2005.

³⁰ Julia King, “All Work, No Play?” *Computerworld* 31 (5 May 1997): 0-1 [database on-line]; available from ProQuest; accessed 11 October 2005.

³¹ Michael R. Muetzel, *They’re Not Aloof...Just Generation X: Unlock the Mysteries of Today’s Human Capital Management* (Shreveport, Louisiana: Steel Bay Publishing, 2003), 16.

³² The officer corps includes employees in economics, political science, management, consular and public affairs. These professions have not been in great demand outside of DOS. Getting hired by DOS is a time-consuming and difficult process and most officers elect to stay with DOS for their career. Whether or not this will be true for Generation X officers is unclear.

³³ The exact costs are difficult to estimate due to changing requirements. Currently, IT specialists must complete a basic 17-week course in IT. Additional coursework in satellites, networking and DOS’s legacy systems may be required, based on the gaining mission’s needs. The training costs for a specialist can exceed \$100,000.

³⁴ Michael R. Muetzel, *They’re Not Aloof...Just Generation X: Unlock the Mysteries of Today’s Human Capital Management* (Shreveport, Louisiana: Steel Bay Publishing, 2003), 54.

³⁵ The author previously worked for the Federal Executive Institute in Charlottesville, Virginia. His responsibilities included advising senior U.S. government employees (those whose

personal grade was GS-15 or Senior Executive Service) how to prepare technology integration plans. During these consultations one theme continually emerged: namely, that the IT group had the most management problems.

³⁶ Ron Zemke, Claire Raines and Bob Filipczak, *Generations at Work* (New York: American Management Association, 2000), 230.

³⁷ Rick and Kathy Hicks, *Boomer, Xers, and Other Strangers: Understanding the Generational Differences That Divide Us* (Wheaton, Illinois: Tyndale House Publishers, 1999), 230-232.

³⁸ Ron Zemke, Claire Raines and Bob Filipczak, *Generations at Work* (New York: American Management Association, 2000), 98.

³⁹ In France, the *generation bof* (who cares) are described as "fun-loving and rootless, pragmatic and market-oriented, environmentalist and entrepreneurial, technologically smarter but otherwise dumber than older people, and far less interested in politics than business." Xers called *byiznyizmyin* are leading their nations' transitions to capitalism in Eastern Europe, Russia and China. In societies with traditionally stronger economies like Japan and Western Europe, the Xers fare much worse; in Italy, many Xers are living at home, unable to get a paying job. For additional information see Neil Howe and William Strauss, *Millennials Rising* (New York: Vintage Books, 2000), 291.

⁴⁰ Ron Zemke, Claire Raines and Bob Filipczak, *Generations at Work* (New York: American Management Association, 2000), 98-102.

⁴¹ Bob Losyk, "Generation X: What They Think and What They Plan to Do," *Public Management* 79 (December 1997): 4-9 [database on-line]; available from Wilson Web; accessed 6 October 2005.

⁴² Neil Howe and William Strauss, *Millennials Rising* (New York: Vintage Books, 2000), 128.

⁴³ Bob Losyk, "Generation X: What They Think and What They Plan to Do," *Public Management* 79 (December 1997): 4-9 [database on-line]; available from Wilson Web; accessed 6 October 2005.

⁴⁴ Ron Zemke, Claire Raines and Bob Filipczak, *Generations at Work* (New York: American Management Association, 2000), 102.

⁴⁵ Leonard Wong, *Generations Apart: Xers and Boomers in the Officer Corps*, Strategic Studies Institute Monograph (Carlisle Barracks: U.S. Army War College, October 2000), 8.

⁴⁶ Shelley Donald Coolidge, "Generations Apart," *Christian Science Monitor* (9 August 1999): [database on-line]; 11 available from ProQuest; accessed 11 October 2005.

⁴⁷ Ron Zemke, Claire Raines and Bob Filipczak, *Generations at Work* (New York: American Management Association, 2000), 250-51.

⁴⁸ Michael R. Muetzel, *They're Not Aloof...Just Generation X: Unlock the Mysteries of Today's Human Capital Management* (Shreveport, Louisiana: Steel Bay Publishing, 2003), 44.

⁴⁹ Lynne C. Lancaster and David Stillman, *When Generations Collide* (New York: Harper Collins, 2002), 39.

⁵⁰ Leonard Wong, *Generations Apart: Xers and Boomers in the Officer Corps*, Strategic Studies Institute Monograph (Carlisle Barracks: U.S. Army War College, October 2000), 13-14.

⁵¹ Bob Losyk, "Generation X: What They Think and What They Plan to Do," *Public Management* 79 (December 1997): 4-9 [database on-line]; available from Wilson Web; accessed 6 October 2005.

⁵² Julia King, "All Work, No Play?" *Computerworld* 31 (5 May 1997): 0-1 [database on-line]; available from ProQuest; accessed 11 October 2005.

⁵³ , Ron Zemke, Claire Raines and Bob Filipczak, *Generations at Work* (New York: American Management Association, 2000), 101.

⁵⁴ Leonard Wong, *Generations Apart: Xers and Boomers in the Officer Corps*, Strategic Studies Institute Monograph (Carlisle Barracks: U.S. Army War College, October 2000), 16.

⁵⁵ Neil Yamashiro, *Generation X*, Strategy Research Project (Carlisle Barracks: U.S. Army War College, 7 April 1998), 18.

⁵⁶ Bob Losyk, "Generation X: What They Think and What They Plan to Do," *Public Management* 79 (December 1997): 4-9 [database on-line]; available from Wilson Web; accessed 6 October 2005.

⁵⁷ Ron Zemke, Claire Raines and Bob Filipczak, *Generations at Work* (New York: American Management Association, 2000), 250-51.

⁵⁸ Bob Losyk, "Generation X: What They Think and What They Plan to Do," *Public Management* 79 (December 1997): 4-9 [database on-line]; available from Wilson Web; accessed 6 October 2005.

⁵⁹ Bob Losyk, "Generation X: What They Think and What They Plan to Do," *Public Management* 79 (December 1997): 4-9 [database on-line]; available from Wilson Web; accessed 6 October 2005, 5

⁶⁰ Neil Yamashiro, *Generation X*, Strategy Research Project (Carlisle Barracks: U.S. Army War College, 7 April 1998), 11.

⁶¹ Bernard Carl Rosen, *Masks and Mirrors* (Westport, Conn.: Praeger Publishers, 2001), 14.

⁶² Bernard Carl Rosen, *Masks and Mirrors* (Westport, Conn.: Praeger Publishers, 2001), 14.

⁶³ Neil Yamashiro, *Generation X*, Strategy Research Project (Carlisle Barracks: U.S. Army War College, 7 April 1998), 11.

⁶⁴ Bernard Carl Rosen, *Masks and Mirrors* (Westport, Conn.: Praeger Publishers, 2001), 29.

⁶⁵ Arthur F. Lykke, Jr., "Toward an Understanding of Military Strategy," chap. *In Military Strategy: Theory and Application* (Carlisle Barracks, Pennsylvania: U.S. Army War College, 1989), 3-6.

⁶⁶ Status might not be as important for the IT specialist. Specialists differ significantly from the Foreign Service officer the public traditionally associates with DOS. IT personnel generally prefer to dress more casually and represent a different tradecraft.

⁶⁷ In 2006, there were 274 specialists in IT management. The number of management positions available depends on how many incumbents depart. Other pertinent data for this research is given below.

The Number of Foreign Service IT
Specialists by Grade (Base Year 2006)

	Grade of IT Specialists					
Department of Defense Equivalent Rank	Flag Rank or General Officer		Colonel	Lt. Colonel		
State Department Grade	MC	OC	FS-01	FS-02	FS-03	FS-04 to FS-06
Functional Grouping	Senior Management		Mid-Level Management		Specialist	
Year 2005	4	21	44	205	358	608
Generation Xers in 2006					215	365
Generation Xers in year 2010 who have been with the State Department for at least 5 years.			1	2	41	72
Generation Xers acceptable for management in year 2010			1	2	16	29

⁶⁸ The author assumed that 40 percent of Generation X specialists will move into management. What about the remaining 60 percent? Identifying a capable Generation X manager apparently will be more difficult than with past generations. Most organizations,

including DOS, will be reluctant to promote 25 percent of those who would like to be promoted. Gen Xers' apparent lack of people skills, mistrust of organizational leadership and occasional lack of ethics presents a lackluster profile. In addition, about 35 percent of Gen Xers aren't interested in being managers and want to continue working technical issues; some may elect to leave the organization and work independently.

⁶⁹ *HR/RMA Home Page*, available from <https://hrweb.hr.state.gov>; U.S. Department of State Intranet; accessed 12 January 2006.

⁷⁰ Some have asked why a Generation X IT employee would leave, given the allegedly desirable and prestigious life DOS offers. The author believes the benefits of overseas life will not be sufficient to retain a Xer for his/her entire career. If the Xer is similar to his/her U.S. based colleagues, this migration will happen, though the actual departure date for the DOS specialist could range between five and eight years. After completing eight to twelve months of initial training and orientation, specialists begin two directed tours, each lasting two years. When this four-year "orientation" period is completed, the specialist enters the normal assignment process whereby he/she submits bids on available assignments. Given generational profiles, we would expect that Generation X employees would begin departing DOS after five years, when their orientation period is completed.

⁷¹ Between 1965 and 1979 the birth rates of Generation X were much less than either the Baby Boomer or succeeding Millennial Generations. For a more detailed discussion of the demographics see Rick and Kathy Hicks, *Boomer, Xers, and Other Strangers: Understanding the Generational Differences That Divide Us* (Wheaton, Illinois: Tyndale House Publishers, 1999), 233.

⁷² Kelly R. Fraser, *Manning the Future Force*, Strategy Research Project (Carlisle Barracks: U.S. Army War College, 3 May 2004), 9.

⁷³ Another option involves using DOS dependents for IT support. The author felt this option would be best employed at the specialist level. Dependents could be used at the management level if they were able to accumulate five years of mission experience in IT.

⁷⁴ Most DOS IT positions require a secret-level security clearance. Obtaining this clearance can take up to nine months. Hiring a government employee who already has a security clearance significantly reduces processing time.

⁷⁵ Michael R. Muetzel, *They're Not Aloof...Just Generation X: Unlock the Mysteries of Today's Human Capital Management* (Shreveport, Louisiana: Steel Bay Publishing, 2003), 43-44.

⁷⁶ The author has observed that IT employees with a military background are often non-commissioned officers who had served in the military at least 10 years. Their age range is from the mid-30 to mid-40s.

⁷⁷ Starting in 2010 and continuing into the future, there may not be enough Generation X workers to replace those retiring. The lack of supply could drive up the price commanded by potential IT managers, including the military. For more information on this generational shortage demographics see Rick and Kathy Hicks, *Boomer, Xers, and Other Strangers: Understanding*

the Generational Differences That Divide Us (Wheaton, Illinois: Tyndale House Publishers, 1999), 233.

⁷⁸ Jane Scott Norris, e-mail message to the author, 10 February 2006. Ms. Norris is a senior member of the IT Bureau and is actively involved in recruiting and personnel initiatives.

⁷⁹ Another option considered for the risk analysis involved recruiting IT personnel from industry. There were some problems with this alternative. DOS competes well with other federal agencies but, like most other federal agencies, does not recruit well against corporations. The corporations can offer more money, better perks and an enhanced working environment.

⁸⁰ This approach is used with IT-help desks. Communication with overseas missions can be via e-mail, video teleconferencing, satellite cell phone or telephone.

⁸¹ An IT manager, most likely a contract employee would have responsibility for several overseas missions in a geographical area. An IT manager for the Middle East, for example, would handle the management needs for missions in multiple countries. His or her accounts could include Israel (Tel Aviv, Jerusalem), Syria (Damascus, Aleppo), Lebanon (Beirut) and Jordan (Amman, Petra). The manager would have to adjust his/her work schedule in the U.S. in order to be available during work hours of the respective missions. The current scenario is projected five years into the future and would have to be updated based on technology advances and political circumstances.

⁸² Besides salary and benefits, an overseas employee has additional expenses for housing, moving, family/dependents, associated medical support and travel.

⁸³ Gerald M. Groe, William Pyle and Jay J. Jamrog, "Information Technology and HR," *Human Resource Planning* 19.1 (1996): PP [database on-line]; available from Wilson Web; accessed 6 October 2005. The authors suggest that a high percentage of the workforce will consist of transportable professionals, specialists and executives engaging in "free agency." Free agency will be made possible by "people yellow pages" allowing potential buyers to shop for talent when they need it.

⁸⁴ Will Ruch, "How to Keep Gen X Employees from Becoming X-Employees," *Training & Development* 54 (April 2000): 40-43 [database on-line]; available from ProQuest; accessed 11 October 2005.

⁸⁵ The Millennials, who are also called Generation Y, are new to the workplace and their work habits are just being researched. One trait that is quickly emerging is their lack of company loyalty—a disquieting workforce characteristic they share with their senior Generation X colleagues. See Stephanie Armour, "Generation Y," *USA Today* (7 November 2005), 1B-2B.

